

## CLAIMS

What is claimed is:

- 1 1. An apparatus, comprising:  
2 an integrated frequency hopping/GPS receiver that receives a  
3 downconversion signal from a frequency synthesizer, said frequency synthesizer  
4 having a phase lock loop with an operative frequency range that is less than the  
5 difference between an ISM band frequency and a GSM carrier frequency.
- 1 2. The apparatus of claim 1 wherein said wireless receiver further comprises  
2 an RF module having an off chip amplifier and an on chip amplifier for GPS  
3 signal processing path, said RF module having an on chip amplifier for said  
4 frequency hopping signal processing path.
- 1 3. The apparatus of claim 1 wherein said wireless receiver further comprises  
2 an IF module having an IF filter, said IF filter having a first bandwidth for said  
3 GPS signal processing path and a second bandwidth for said frequency hopping  
4 signal path.
- 1 4. The apparatus of claim 1 wherein said wireless receiver further comprises  
2 a digitizing module having an IQ combiner for said GPS signal processing path  
3 and an FSK demodulator for said frequency hopping signal path.
- 1 5. An apparatus, comprising:

2 an RF module within a wireless receiver, said RF module having an off  
 3 chip amplifier and an on chip amplifier for a GPS signal processing path, said RF  
 4 module having an on chip amplifier for a frequency hopping signal processing  
 5 path.

1 6. An apparatus, comprising:  
 2 an IF module within a wireless receiver, said IF module having an IF filter,  
 3 said IF filter having a first bandwidth for a GPS signal processing path and a  
 4 second bandwidth for a frequency hopping signal path.

1 7. An apparatus, comprising:  
 2 a digitizing module within a wireless receiver, said digitizing module  
 3 having an IQ combiner for a GPS signal processing path and an FSK  
 4 demodulator for a frequency hopping signal path.

1 8. An apparatus, comprising:  
 2 a frequency synthesizer having a phase lock loop with an operative  
 3 frequency range that is less than the difference between an ISM band frequency  
 4 and a GSM carrier frequency, said phase lock having a feedback coupled to a  
 5 sigma delta modulator, said sigma delta modulator configured to receive a  
 6 control word for receiving a frequency hopping channel or a control word for  
 7 receiving a GPS signal.

1 9. An apparatus, comprising:

2 a wireless receiver having a GPS signal processing path and a frequency  
3 hopping signal path, said wireless receiver having a control input that enables  
4 said GPS signal processing path or said frequency hopping signal processing  
5 path.

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